GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF MINES AND ENERGY

NEWFOUNDLAND - ONE OF CANADA'S PRIME MINERAL EXPLORATION AREAS!

by

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1. Quarry Development by Aurion Minerals Ltd. near Croque (Bonus Quarry), Great Northern Peninsula, Newfoundland. (Slide)

2. Trench exposing the Hammerdown Zone on the Rendell-Jackman Property (Noranda - Major General Resources joint venture) near Springdale, Notre Dame Bay.

3. Winter activity scene at the Corona - Varna (joint venture) base camp near Pine Cove (Lightning Zone), Baie Verte Peninsula.

	PROJECT STATUS/ COMPANY NAME	PROJECT NAME	COMMODITY	EST. RESERVES TONNES (10^3t)	EST. RESERVES GRADE (g/t)	EST. EMPLOYMEN
			NEWFOUNDLAND			
New Mines	Iron Ore Co. of Canada	Leila Wynn Lake	Dolomite	2,500	-	20
Development	Aurion Minerals	Croque Project	Calcite	5,000 - 10,000	-	20
	Lafosse Platinum	Schefferville	Manganese	60,000	45-48% Mn	10
Advanced Exploration	Dolphin Explorations	Cape Ray	Au	1,032	9.6	-
	Noranda Explorations	Duck Pond	Zn, Cu, Pb Ag, Au	4,030	3.53% Cu, 1.05% Pb 6.62% Zn, 67.39 Ag 1.02 Au	-
	Bitech Resources/ Equity Silver	Nugget Pond	Au	513.7	14.13	-
	Corona Corp./Varna	Pine Cove	Au	1,200	5.4	-
	Noranda Exploration/ Major General Resources	Hammerdown	Au	430	11.6	-

INTRODUCTION

Mineral exploration in Newfoundland during 1990 decreased from the record setting levels in 1988 and 1989. Claim-staking statistics for the first three quarters of 1990 stand at 7,987 claims staked, and 46,442 in good standing, down from the 1989 levels of 15,521 and 67,219 respectively. Exploration expenditures for 1990 are forecast to be in the $20-25 million range, down approximately 25% from 1989 ($28.5 million) levels, 50% from the record 1988 ($41.1 million) but up approximately 50% from 1986 levels ($11.8 million). Diamond drilling is forecast to be in the ± 125,000 m range generally on par or slightly above the 122,000 m's drilled in 1989. This overall downward trend is forecasted to continue into 1991.

The exploration effort in 1990, was generally balanced between gold and base metals with a smaller but increasing interest in industrial minerals.

The most active geological/metallogenic environments for mineral exploration in Newfoundland include:

1. Ordovician island-arc volcano-sedimentary sequences in the Central Mobile Belt which are host to polymetallic, massive sulphide deposits containing copper and/or zinc, and/or lead, often with a gold and silver association.
2. Lower Ordovician ophiolite sequences which host gold, copper, chromite and platinum group metals.
3. Regional tectonic lineaments and fault zones that have acted as a regional focus for lode gold deposits in associated second and third order structures.

4. Granite-related hydrothermal alteration which have produced a variety of deposit types including gold, base-metal and lithophile mineralization.

5. Subvolcanic epithermal alteration zones in Silurian volcanic rocks in the Central Mobile Belt which hold potential for gold and base-metal sulphide deposits.

6. Cambro-Ordovician carbonate sequences of western Newfoundland which host Mississippi Valley-type base metal deposits as well as a variety of industrial minerals.

1990 HIGHLIGHTS

- **BP RESOURCES CANADA LIMITED** announced the discovery of the Daniel's Pond base/precious metal prospect located 20 km south of Buchan's, central Newfoundland. The best result reported, to date, from this mineral prospect is 5.5 m from drill core grading 18.8% Zn, 1.12% Cu, 10.9% Pb and 399.5 g Ag/tonne. Further drilling has been completed. However, results from these phases have not been released.

- **NEWFOUNDLAND RESOURCES AND MINING COMPANY** completed construction work on their Lower Cove, Port au Port limestone aggregate operation during October, 1989. The crushing and processing facilities were commissioned in early 1990. Official opening ceremonies on June 27, 1990 were followed by the first shipment of product for markets in the northeastern United States on June 30,

1990.

- **NORANDA EXPLORATION COMPANY, LIMITED - BP RESOURCES CANADA LIMITED.** (60-40) joint venture continued exploration work in the area of its Duck Pond base-metal deposit south of Millertown, central Newfoundland. Activity during 1990 included continued diamond drilling and feasibility and environmental studies. Drill indicated geological reserves stand at 4.3 million tonnes grading 3.58% Cu, 1.05% Pb, 6.73% Zn, 68.31 g Ag/tonne and 1.0 g Au/tonne.

- **NORANDA EXPLORATION COMPANY, LIMITED - MAJOR GENERAL RESOURCES LIMITED.** joint venture carried out diamond drilling, geophysical and geological surveys in 1990 on their Rendell-Jackman property located near Springdale, Notre Dame Bay. These surveys have further defined significant gold mineralization, particularly the Hammer Down, Rumbullion and Muddy Shag Zones. Preliminary geological reserves on the Hammer Down stand at 429,593 tonnes grading 19.5 g Au per tonne uncut or 11.6 g Au per tonne cut.

- **CORONA CORPORATION - VARNA GOLD INC.** joint venture (now 759291 Ontario Ltd.) released a preliminary reserve figure from their Pine Cove property located near Ming's Bight on the Baie Verte Peninsula. Based on 79 drill holes totalling 10,000 m, preliminary reserves stand at 2.75 million tonnes grading 3.0 g Au per tonne at a

cutoff grade of 1.0 g Au per tonne or 1.2 million tonnes grading 5.4 g Au per tonne at a cutoff grade of 2.5 g Au per tonne. These reserves are contained within the Lightning and Thunder Zones and may be amenable to open pit extraction.

- NORANDA EXPLORATION COMPANY, LIMITED - NORONT RESOURCES LIMITED. The grubline joint venture project continued to provide encouraging results in the Gander area. Exploration work is now focused on the Duder Lake and Mount Peyton gold prospects and the Beaver Lake antimony showings. Some of the more significant results released this year include; 0.13 ounces Au per ton over 25.6 ft from a drill hole in the Duder Lake area; 0.11 ounces Au per ton over 15.1 ft from a drill hole in the Mount Peyton area; and 7.74% Sb over 10.5 ft, 4.2% Sb over 75.5 ft and 33.0% Sb over 1.6 ft in drill holes from the Beaver Lake property.

- Construction of BAIE VERTE MINES REPROCESSING INC'S wet milling process plant was completed during 1990. Commercial production commenced in August 1990, initially using tailings coming directly from the dry operation. When the dry operation ends, the wet mill will reprocess the existing tailings pile. The process technology provides a low cost environmentally sound extraction technique.

- AURION MINERALS LIMITED. AND ENGLISH CHINA CLAYS AMERICA

INCORPORATED continued to develop their Coles Pond and Pennys Pond marble deposits, respectively, located on the east side of the Great Northern Peninsula. Work during 1990 included diamond drilling (10 holes) and further bulk sampling in the Coles Pond deposit and diamond drilling at Penny's Pond. Results of these surveys have not been released. Aurion will ship a bulk sample from Coles Pond this year.

- **HOLLINGER NORTH SHORE EXPLORATION INC.** commenced producing manganese ore and sinter ore from three of its approximately 40 Fe-Mn deposits located in the general Schefferville Area.
- **THE MINERAL ACT, 1976 AND THE MINERAL HOLDINGS IMPOST ACT, 1977** underwent some significant ammendments during 1990.
- Last but by no means least, on October 1st, the Government of Canada and the Province of Newfoundland signed a four-year $17.5 million **Minerals Agreement.**

GOLD

Exploration activity for gold remained strong in several areas of the province during 1990, particularly in the Baie Verte - Springdale Peninsula areas of Newfoundland's northeast coast. Some of the more advanced projects in this area include: i) the Varna Gold - Corona Corp. Pine Cove claims containing the Thunder and Lightening zones and the newly discovered Romeo, Juliet and Anoroc

showings; ii) the Noranda - Major General Rendell-Jackman property containing the Hammerdown, Rumbullion, Muddy Shag and Wisteria gold zones and some interesting base metal prospects; iii) the Bitech Nugget Pond deposit; and iv) the International Impala Stog'er-Tight property. In western White Bay, BP Resources Canada and Carrick Gold carried out major drill programs on their Great Rattling Brook and Jackson's Arm properties, respectively. Southwest of White Bay on Glover Island, Grand Lake, both Noranda and Newfoundland Goldbar continued to evaluate interesting gold prospects on their respective properties. South of Red Indian Lake in central Newfoundland, BP Resources Canada has a number of gold and or polymetallic base metal projects. Further east, the region southwest and north of the town of Gander, the Noranda - Noront Resources Grubline joint venture property continued to provide encouraging gold and antimony values. Attention is now focused on the Duder Lake (Au), Mount Peyton (Au) and Beaver Lake (Sb) areas. On the Burin and Avalon Peninsulas, eastern Newfoundland, gold exploration levels increased slightly in 1990. Limited gold exploration was also carried out in Labrador, specifically western Labrador in the general Schefferville area.

BASE METALS

The Noranda Exploration Company, Limited - BP Resources Canada Limited joint venture (60-40) was the most active and advanced base metal property again this year. Diamond drilling continued throughout 1990 in the immediate Tally Pond area and to the

northeast near Burnt Pond. Ground surveys and diamond drilling was conducted in the Noel Paul's Brook area south of Duck Pond - Tally Pond.

BP Resources Canada Limited continued their comprehensive exploration program on the AND Charter Lands.

BP Resources Canada Limited announced the discovery of a new volcanogenic base/precious metal prospect near Daniels Pond 20 km south of Buchans. The best result reported, to date, from diamond drilling is 5.5m grading 18.8% Zn, 1.12% Cu, 10.9% Pb and 399.5 g Ag/tonne. Numerous ground surveys were completed in 1990. Further drilling has been completed, however results from these drilling phases have not been released.

Island arc volcanic belts received the attention of a number of companies during 1990 with continued ground surveys and diamond drilling on a number of properties. Principal active companies included: Falconbridge Limited, Rio Algom Exploration Limited, Inco Exploration and Technical Surveys, Teck Exploration Limited, Corona Corporation, Noranda Exploration Company, Limited in joint venture with Epoch Capital Corporation, Major General Resources and Manor Resources, Granges Inc. in joint venture with Aquagold Resources.

In the Rambler area, on the Baie Verte Peninsula, Corona Corporation carried out ground surveys on the Rambler North, Wellsdale Option and Rambler South properties. On the Rambler North property, (Corona Corporation - Newfoundland Goldbar Joint Venture) line-cutting, geophysics, geochemistry, geological mapping

and prospecting has been carried out over the entire claim group. Follow-up trenching, geophysical surveys and diamond drilling are being conducted on IP targets with coincident gold and base metal values. Further surveys are planned for the Wellsdale Option and Rambler South Property in 1991.

Noranda Exploration Company, Limited recently entered into joint ventures with Cumberland Resources Limited on three base metal projects in the Bay of Islands area, western Newfoundland. Earlier exploration programs, (1950, 1977) showed a drill-indicated reserve of 220,000 tons grading 2.63% Cu and 8.25% Zn at the old York Harbour Mine. The down dip projection of this deposit has been drill tested. Ground surveys and prospecting in the general area have identified additional drill targets.

The Canchrome Joint Venture (Corona/Canchrome) carried out limited field work on chromite targets in the ophiolites of Western Newfoundland. A small diamond drill program was completed at Bluff Head.

Reconnaissance surveys and some claim staking of base metal targets was conducted in Labrador during 1990. Active companies include: Cominco Ltd, Teck Exploration Limited, Noranda Exploration Company, Limited. More follow-up surveys are planned for 1991.

INDUSTRIAL MINERALS

Newfoundland Resources and Mining Company Limited commenced production in the spring of 1990 and several shipments have been

made to date. The presence of the new plant and dock facility has improved the overall economics of other industrial mineral commodities in the Port au Port area. Other companies active in the immediate area during 1990 include Western Canadian Mining Corp. (limestone), Norsk Hydro (dolomite), Zeraldo Minerals (limestone-dolomite) and Corona Corp. (placer Cr.). On the Great Northern Peninsula, ECC America Ltd. and Aurion Minerals carried out further studies on their high quality marble deposits. The Iron Ore Company of Canada continued development work on its Leila-Wynne Lake dolomite deposit in Labrador. IOCC requires dolomite for production of flux pellets.

Other industrial mineral developments and opportunities include - Baie Verte Mines Reprocessing Inc.'s wet milling process plant was completed during 1990 with commercial production started in August 1990; minor production at the Nut Cove Slate quarry in Trinity Bay; possible startup of a slate quarry at Keels, Bonavista Bay; evaluation of several sites in central Newfoundland for dimension stone; the production of gem quality labradorite in the Nain area of Labrador; feasibility work on silica sand deposits in western Labrador; interest in graphite occurrences in western Labrador and the renewed interest in the Strange Lake Zr-Y-Nb-REE deposit near Lac Brisson on the Quebec-Labrador border.

MINERAL PRODUCTION

The preliminary value of mineral production for 1989 is $963 million, including $788 million for iron ore and $175 million for

other products. This is the highest value for iron ore since 1984.

The increase in total value of mineral production in 1989 represents an overall increase of approximately 11 percent over 1988 ($864 million).

Nonmetals, including asbestos, gypsum, fluorspar, dolomite, silica, pyrophyllite and peat, and structural materials (including brick, cement, stone, and sand and gravel) totalled about $78 million in 1989 compared to about $75 million in 1988. The increase here primarily represents improvements in sales of asbestos and gypsum.

For 1990, it is likely that the total value of mineral production will increase slightly to just over $1 billion. The value of iron ore is expected to increase by 9%. As well, increases in the value of gold, dolomite, and gypsum production are projected.

SUMMARY

This is a critical year for mineral exploration in Newfoundland and Labrador. The exploration momentum generated during the past five years has become focused on the more advanced projects, as reflected by the continued high levels of diamond drilling activity. The significant reduction in levels of grass roots mineral exploration is cause for concern, as is the increased difficulty in raising exploration funding, particularly by the junior companies.

The number of very promising prospects being explored, and the exploration commitment of the major mining companies in the province, is a positive sign. However, further encouraging results from this season's exploration activity are considered vital to maintain the momentum in mineral exploration.

HIGHLIGHTS OF EXPLORATION PROJECTS 1990

	COMMODITY	TONNES/GRADE	COMMENTS
CENTRAL NFLD/ BUCHANS AREA			
Tally Pond (Noranda-BP)	Cu, Pb, Zn, Ag, Au	4,300,000 @ 3.5% Cu, 1.05% Pb, 6.73% Zn, 68.31g/mt Ag, 1.0g/mt Au	Surface Drilling
Boundary (Noranda)	Cu, Zn, Ag	500,000 @ 3.5% Cu, 4.0% Zn, 34g/mt Ag	
Daniels Pond (BP Resources)	Cu, Pb, Zn, Ag, Au	N/A	Surface Drilling, Geophysics, Geochemistry
BAIE VERTE/ SPRINGDALE PEN.			
Nugget Pond (Bitech)	Au	513,744 @ 14.13g/mt Au	
Stoger-Tight (Noranda)	Au	550,000 @ 5.82g/mt Au	Geology, Geochemistry
Deer Cove (Noranda)	Au	N/A	
Pine Cove (Varna)	Au	2,750,000 @ 3.0g/mt Au or 1,200,000 @ 2.5g/mt Au	Stripping, Diamond Drilling

HIGHLIGHTS OF EXPLORATION PROJECTS 1990

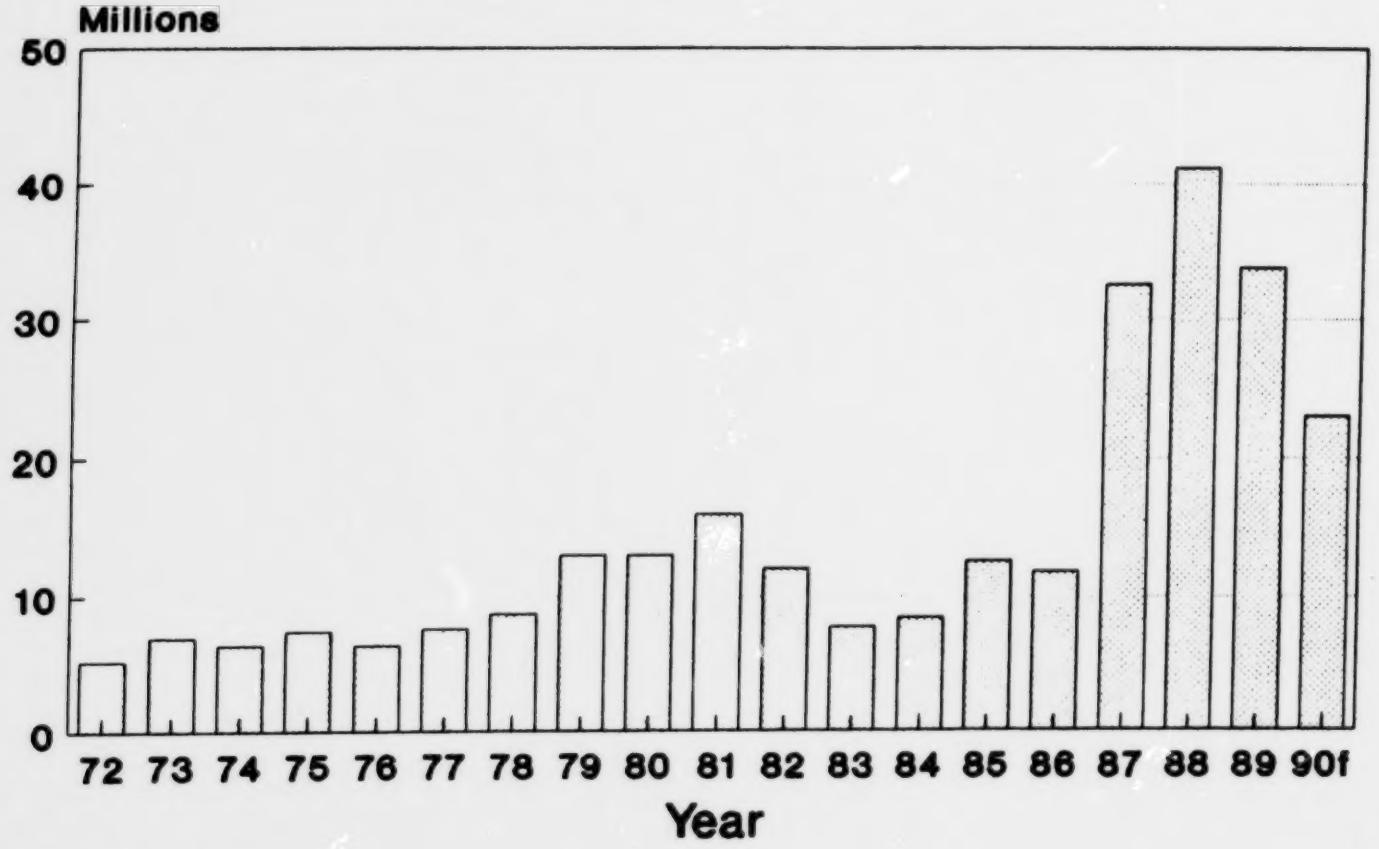
	COMMODITY	TONNES/GRADE	COMMENTS
Rendell-Jackman (Noranda-HammerDown)	Au	450,000 @ 19.5 g/st Au (uncut) or 450,000 @ 11.7 g/st Au (cut)	Surface Drilling, Geophysics
Point Leamington (Noranda)	Cu	13,800,000 @ 0.48% Cu, 1.92% Zn, 18.1 g/mt Ag, 0.9 g/mt Au	Drilling
Duder Lake/Mt Peyton (Noranda)	Au	N/A	Drill highlights include 25.6 feet @ 0.13 oz/st Au from Duder Lake and 15.1 feet @ 0.18 oz/st Au from Mt Peyton.
Beaver Lake Antimony (Noranda)	Sb	N/A	Drill highlights include 10.5 feet @ 7.74% Sb and 75.5 feet @ 4.20% Sb.
SOUTHWEST COAST			
Cape Ray (Dolphin)	Au	500,000 st @ 0.294 oz/st Au	Geochemical Surveys

st: short tons

mt: metric tonnes

Source: Department of Mines & Energy (05/10/90)

Newfoundland And Labrador
Annual Exploration Expenditures



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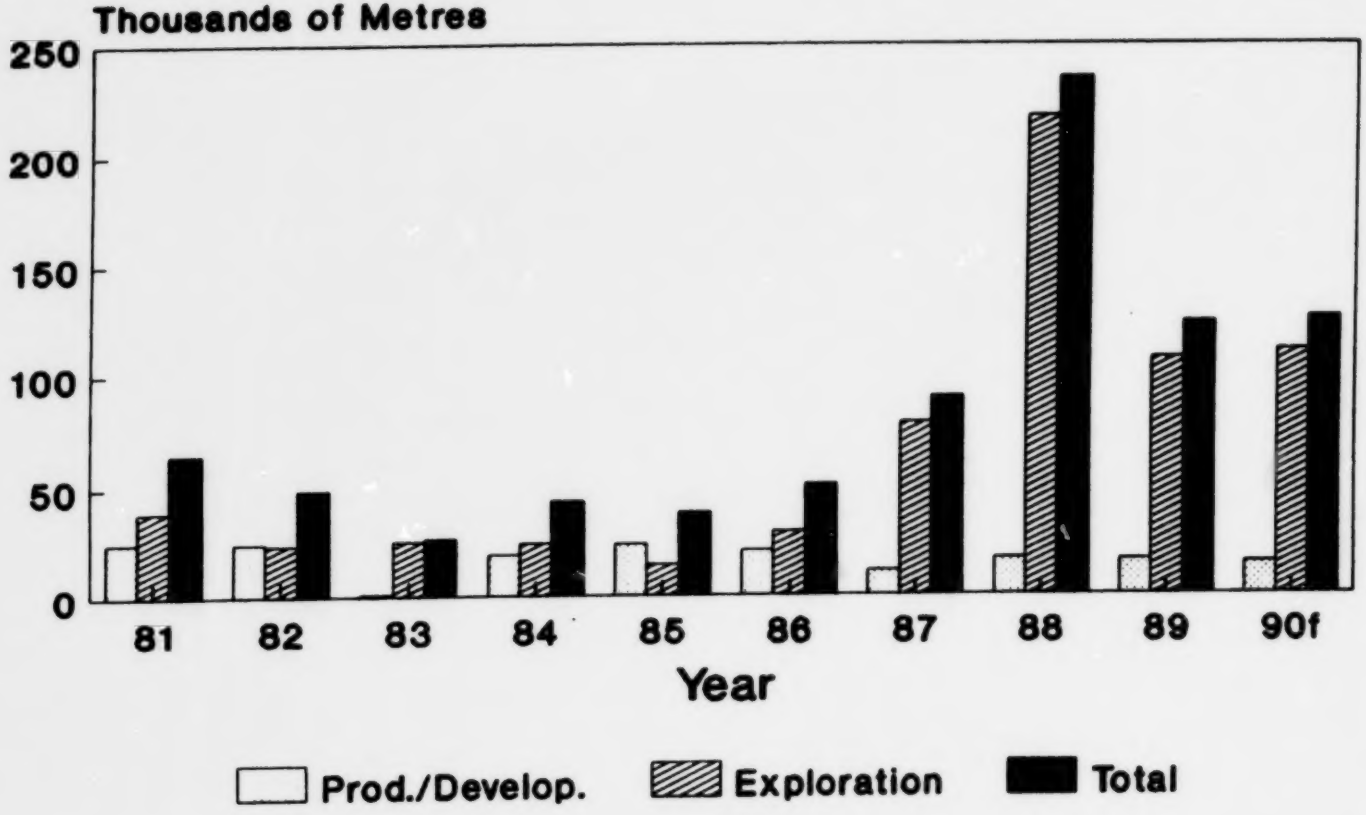
Newfoundland And Labrador Diamond Drilling Statistics



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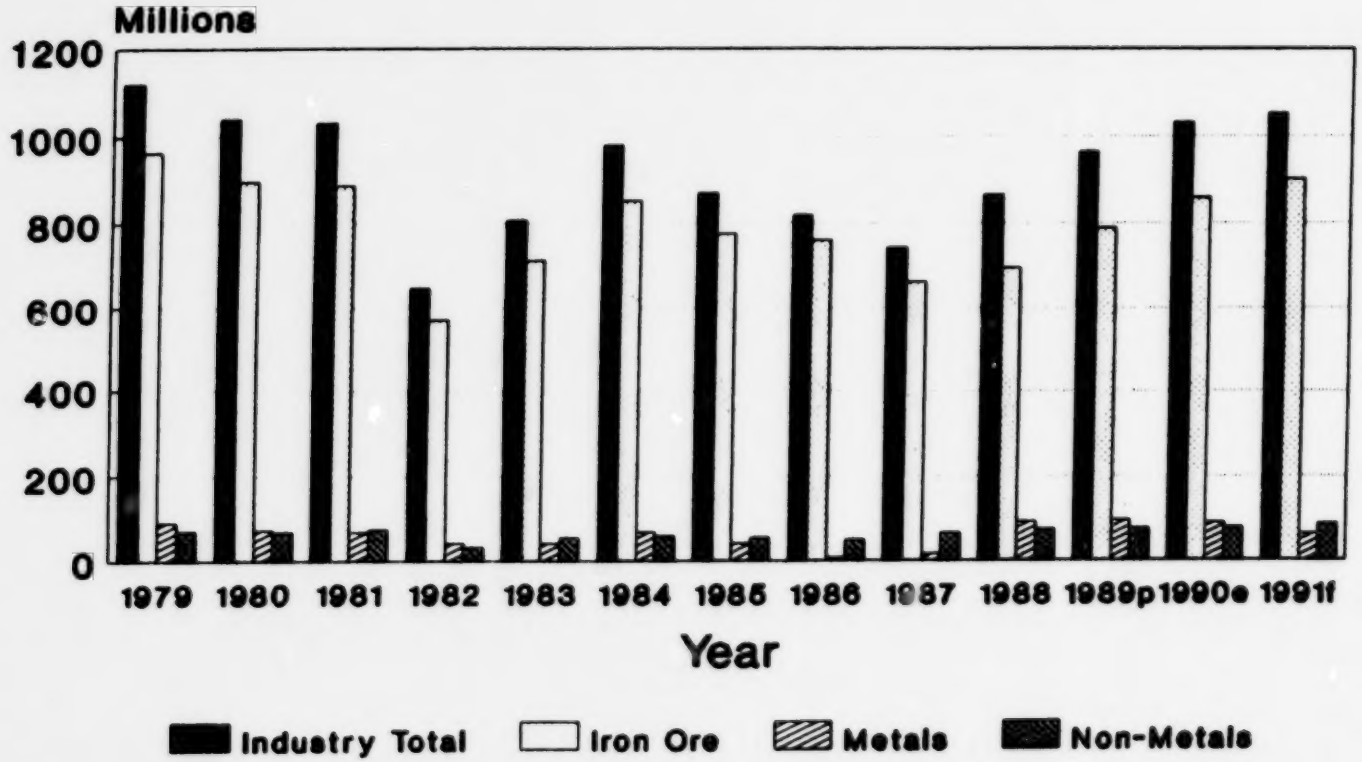
Newfoundland And Labrador
Value Of Mineral Shipments



Energy, Mines and Resources
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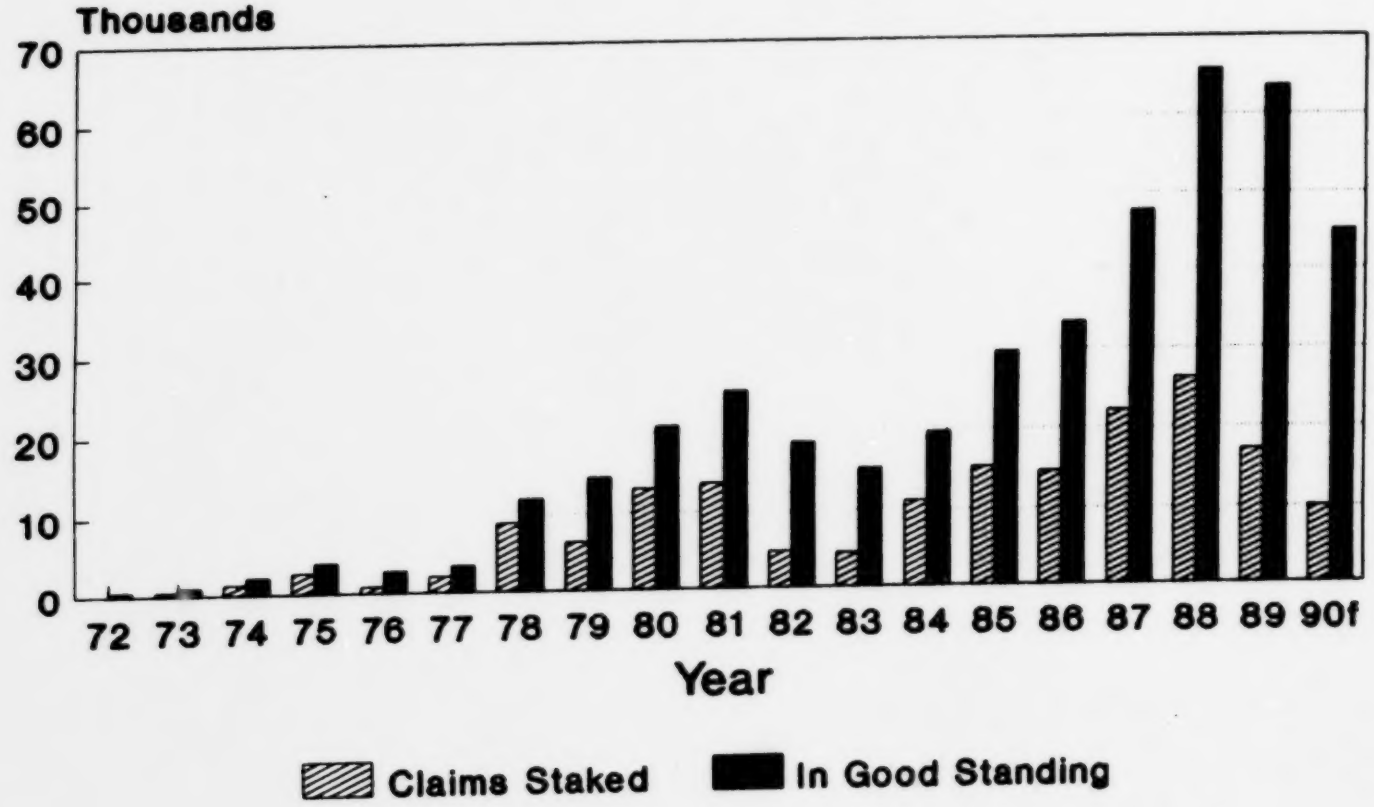
Newfoundland And Labrador Claim Staking Statistics



Dept. of Mines & Energy

GOLD EXPLORATION
MAIN AREAS OF ACTIVITY

- • PROJECTS RECENTLY DRILLED OR BEING DRILLED
- x OTHER EXPLORATION PROJECTS

1 - GOOSE COVE
2 - ENGLEE
3 - CLOUD RIVER
4 - JACKSON'S ARM - RATTLING BROOK
5 - SILVER MOUNTAIN
6 - SOPS ARM
7 - DEVIL'S COVE, STOG'ER TIGHT, LIGHTNING ZONE
8 - BETTS COVE - NUGGET POND
9 - DORSET SHOWING
10 - FLATWATER POND
11 - GLOVER ISLAND
12 - CAPE RAY
13 - STRICKLAND
14 - HOPE BROOK
15 - VALENTINE LAKE
16 - MIDAS POND
17 - BOBBYS POND
18 - RENDELL JACKMAN
19 - LITTLE BAY
20 - FORTUNE HARBOUR
21 - MORETONS HARBOUR - NEW WORLD ISLAND
22 - GANDER BAY
23 - GLENWOOD
24 - GREAT BEND
25 - GREAT BURNT LAKE
26 - TERRA NOVA RIVER
27 - KIM LAKE
28 - LITTLE RIVER
29 - HICKEY'S POND
30 - BURIN KNEE
31 - FOXTRAP
32 - HOLYROOD

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INDUSTRIAL MINERALS

- ● PRODUCERS AND SITES UNDER EVALUATION
- x SIGNIFICANT DEPOSITS

1 - CAPE NORMAN
2 - CROQUE
3 - COLES POND
4 - PENNY'S POND
5 - PORT AUX CHOIX
6 - CORMACK
7 - GOOSE ARM
8 - CORNER BROOK
9 - AGUATHUNA
10 - LOWER COVE
11 - FLAT BAY
12 - FISCHELLS BROOK
13 - ROSE BLANCHE
14 - GREY RIVER
15 - BUCHANS
16 - BAIE VERTE
17 - MINGS BIGHT
18 - LA SCIE
19 - GREAT BEND
20 - FORTUNE
21 - ST. LAWRENCE
22 - TRINITY BRICK
23 - NUT COVE
24 - COLLIERS POINT
25 - LONG HARBOUR
26 - DUNVILLE
27 - NEWFOUNDLAND MINERALS
28 - CANADA HARBOUR
29 - DEER LAKE
30 - KEELS
31 - MAINLAND
32 - LOWER COVE EAST

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BASE METAL EXPLORATION
MAIN AREAS OF ACTIVITY

- • PROJECTS RECENTLY DRILLED OR BEING DRILLED
- x OTHER EXPLORATION PROJECTS

1 - ROUND POND
2 - DANIEL'S HARBOUR
3 - YORK HARBOUR
4 - RAMBLER
5 - TILT COVE
6 - SPRINGDALE PENINSULA
7 - PILLEY'S ISLAND
8 - GULLBRIDGE
9 - POINT LEAMINGTON
10 - BUCHANS
11 - SKIDDER
12 - TULKS HILL
13 - DUCK POND - TALLY POND
14 - GREAT BURNT LAKE
15 - WINTER HILL
16 - CARBONEAR
17 - DUDER LAKE
18 - DANIELS POND
19 - LAKE BOND

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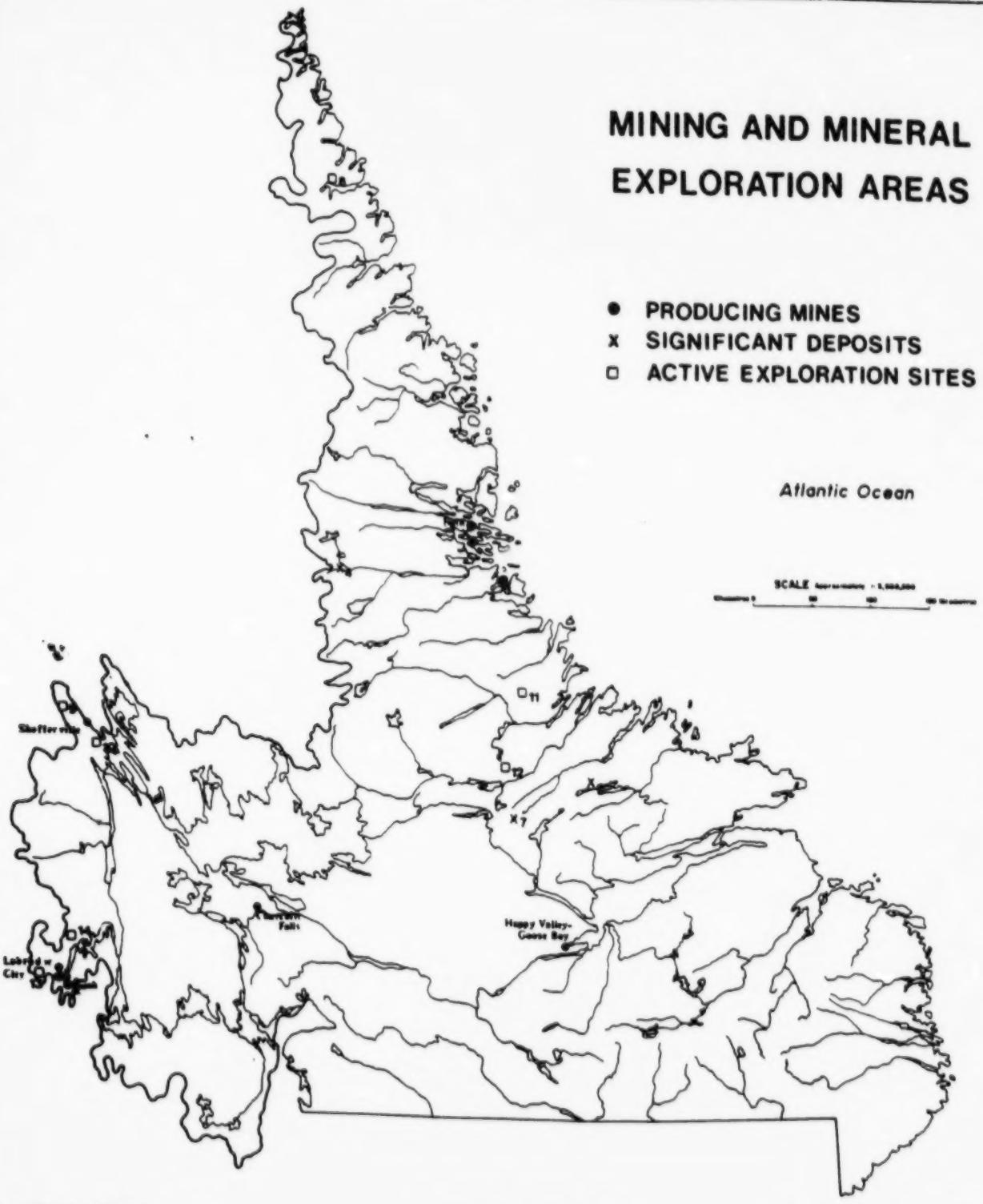
MINING AND MINERAL EXPLORATION AREAS

- ● PRODUCING MINES
- x SIGNIFICANT DEPOSITS
- □ ACTIVE EXPLORATION SITES



1 - IRON ORE CO. (Fe)
2 - WABUSH MINES (Fe)
3 - TABOR ISLAND (LABRADORITE)
4 - STRANGE LAKE (Zr, Nb, REE, Y)
5 - NAIN (LABRADORITE)
6 - KITTS-MICHELIN (U)
7 - LETITIA LAKE (Y, Be, REE)
8 - SAGLEK (PM-BM)
9 - HOWELLS RIVER (PM)
10 - JAMES MINE (Fe, Mn)
11 - HUNT RIVER (PM-BM)
12 - KANAIRIKTOK RIVER
13 - LONG LAKE (GRAPHITE)
14 - SAWBILL LAKE (PM)

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